Pediatric and Adult Influenza Webinar 2015-2016 Flu Season

Michigan State University Extension
Physician Peer Education Project on Immunization

Michigan Department of Health and Human Services

August 2015

Instructions for Webinar Participation

Getting Started

- The webinar will start soon
- Audio is through your computer speakers or headset – ***you may not hear sound until webinar begins***
- Audio check - use the Audio Settings Audio Settings options to do a sound check
- If you see presenters talking but do not hear audio, use the Question & Answer feature to indicate you are not getting sound

How to Ask Questions

1. Click on Questions and Answers icon found at the upper part of your screen
2. A box will open where you can type in questions, comments, indicate sound problems, etc.
3. You can use this throughout this webinar to ask questions

Technical Help

- Do your own sound check using the Audio Settings option.
- Telephone (800) 500-1554 for technical support.

Speaker Disclosures

- Speakers for today's webinar:
  - Heidi Loynes, RN, BSN, Immunization Nurse Educator, MDHHS
  - Stefanie DeVita, RN, MPH, Influenza Epidemiologist, MDHHS
- All faculty presenters have nothing to disclose.
- No commercial support was provided for this CME/PCE activity.

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CME Information

- Michigan State University is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.
- Michigan State University designates this live activity for a maximum of 1 *AMA PRA Category 1 Credit*™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.
- Policy on Privacy and Confidentiality: http://msue.anr.msu.edu/pages/privacy

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PCE Information

- Michigan Pharmacists Association is accredited by the Accreditation Council for Pharmacy Education (ACPE) as a provider of continuing pharmacy education.
- This activity is structured to meet knowledge-based educational needs and acquires factual knowledge. Pharmacy continuing education (PCE) credit (1.0 contact hour) will be earned based on participation in this activity.

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Questions

- Please enter questions in the chat box
- We will answer questions at the end of the webinar
- Q&A document will be sent after the webinar

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Pediatric and Adult Influenza Update Objectives

- Discuss influenza disease rates, surveillance, and vaccine coverage levels
- Discuss influenza vaccine recommendations
- Identify strategies to improve influenza vaccination rates

Image courtesy of CDC at http://phil.cdc.gov/phil/home.asp

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Burden of Influenza Disease

- Difficult to predict severity or timing
- 5%-20% of U.S. population infected
- Range of 3,000-49,000 (average 23,600) influenza-related deaths annually in the U.S.
- Annual average of 226,000 hospitalizations
- Rates of serious illness & death greatest in:
  - Persons aged 65 years and older
  - Children less than 2 years of age
  - Persons (any age) with medical conditions that put them at high risk for complications from influenza

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Influenza Surveillance

- 5 categories of flu surveillance
  - Outpatient Influenza-like Illness Surveillance Network (ILINet)
- 90 sentinel sites in Michigan
  - Submit the total number of patients seen and number with ILI on a weekly basis
- Sentinel providers receive
  - Free registration at an MDHHS Regional Immunization Conference for reporting regularly
  - Free laboratory testing for ~11 specimens per site per year
  - Weekly data reports

For more information, contact:
DeVitaS1@michigan.gov

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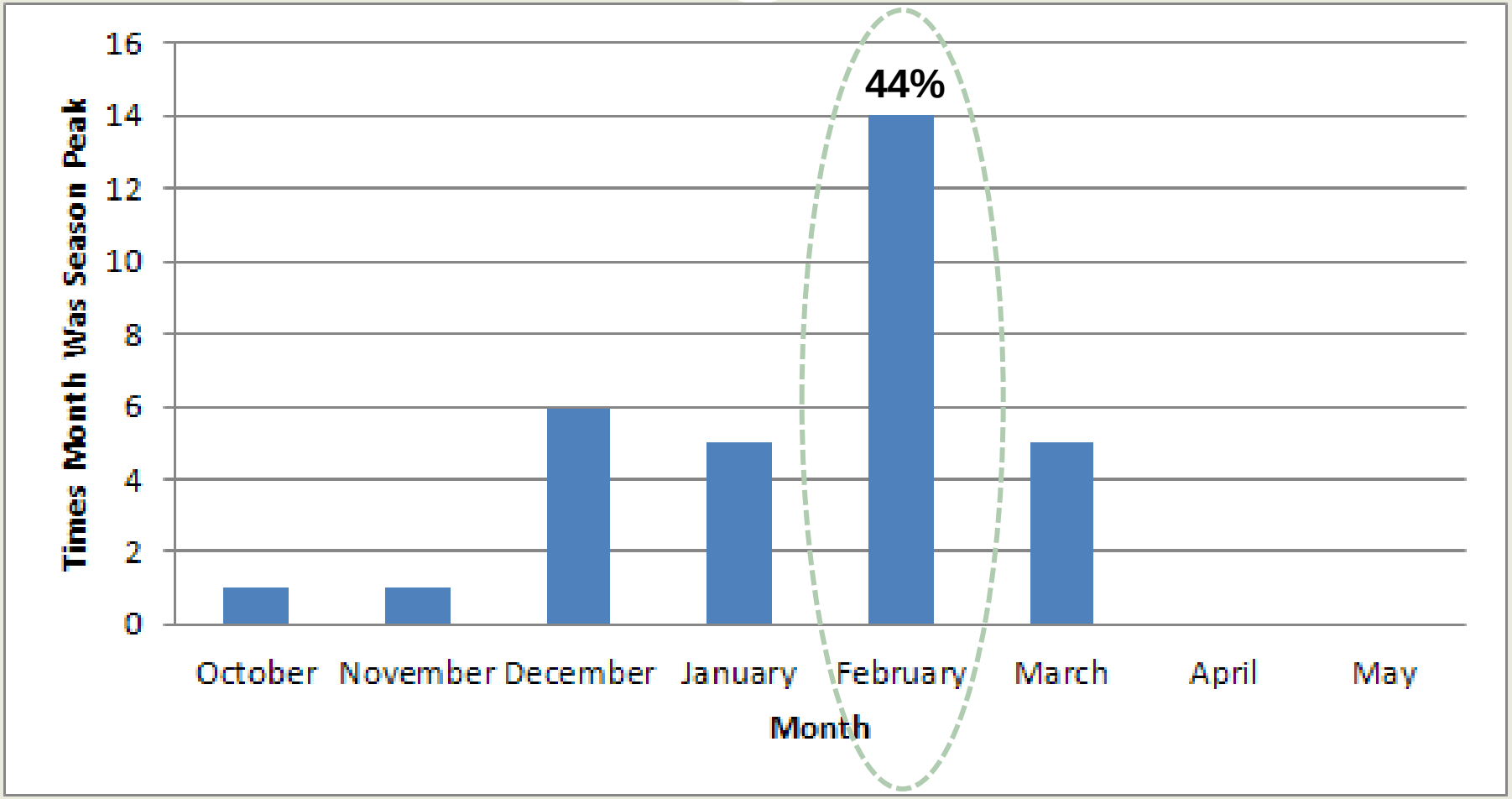
Month of Peak Influenza Activity in U.S., 1982-83 through 2013-14



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http://www.cdc.gov/flu/about/season/flu-season.htm

2015-2016 Influenza Vaccine Strains

- Trivalent vaccines:
  - A/California/7/2009 (H1N1)pdm09-like
  - A/Switzerland/9715293/2013 (H3N2)-like – **NEW**
  - B/Phuket/3073/2013-like – **NEW**

- Quadrivalent vaccines, same as above plus:
  - B/Brisbane/60/2008-like

World Health Organization: www.who.int/influenza/vaccines/virus/recommendations

2015-2016 Seasonal Influenza Vaccine Recommendations

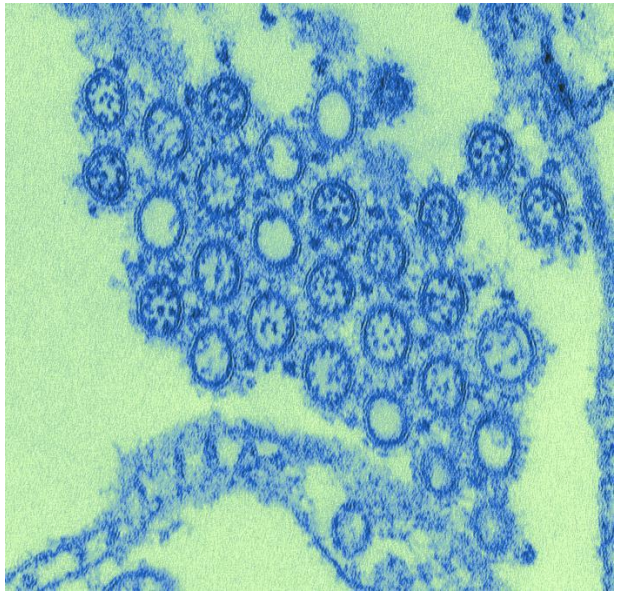

Image depicting influenza A/H1N1 virions, courtesy of CDC at http://phil.cdc.gov/phil/home.asp

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Influenza Recommendations

Morbidity and Mortality Weekly Report

Prevention and Control of Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices, United States, 2015–16 Influenza Season

Lisa A. Grohskopf, MD[1]; Leslie Z. Sokolow, MSc, MPH[1,2]; Sonja J. Olsen, PhD[1]; Joseph S. Bresee, MD[1]; Karen R. Broder, MD[3]; Ruth A. Karron, MD[4]

This report updates the 2014 recommendations of the Advisory Committee on Immunization Practices (ACIP) regarding the use of seasonal influenza vaccines (*1*). Updated information for the 2015–16 season includes 1) antigenic composition of U.S. seasonal influenza vaccines; 2) information on influenza vaccine products expected to be available for the 2015–16 season; 3) an updated algorithm for determining the appropriate number of doses for children aged 6 months through 8 years; and 4) recommendations for the use of live attenuated influenza vaccine (LAIV) and inactivated influenza vaccine (IIV) when either is available, including removal of the 2014–15 preferential recommendation for LAIV for healthy children aged 2 through 8 years. Information regarding topics related to influenza vaccination that are not addressed in this report is available in the 2013 ACIP seasonal influenza recommendations (*2*).

Recommendations for routine use of vaccines in children, adolescents, and adults are developed by the Advisory Committee on Immunization Practices (ACIP). ACIP is chartered as a federal advisory committee to provide expert external advice and guidance to the Director of the Centers for Disease Control and Prevention (CDC) on use of vaccines and related agents for the control of vaccine-preventable diseases in the civilian population of the United States. Recommendations for routine use of vaccines in children and adolescents are harmonized to the greatest extent possible with recommendations made by the American

Information in this report reflects discussions during public meetings of ACIP held on February 26 and June 24, 2015. Subsequent modifications were made during CDC clearance review to update information and clarify wording. Meeting minutes, information on ACIP membership, and information on conflicts of interest are available at http://www.cdc.gov/vaccines/acip/committee/members.html. Any updates will be posted at http://www.cdc.gov/flu.

Groups Recommended for Vaccination and Timing of Vaccination

Routine annual influenza vaccination is recommended for all persons aged ≥6 months who do not have contraindications. Optimally, vaccination should occur before onset of influenza activity in the community. Health care providers should offer vaccination by October, if possible. Vaccination should continue to be offered as long as influenza viruses are circulating. Children aged 6 months through 8 years who require 2 doses (see "Vaccine Dose Considerations for Children Aged 6 Months through 8 Years") should receive their first dose as soon as possible after vaccine becomes available, and the second dose ≥4 weeks later. To avoid missed opportunities for vaccination, providers should offer vaccination to unvaccinated persons aged ≥6 months during routine health care visits and hospitalizations when vaccine is available.

Antibody levels induced by vaccine decline after vaccination (*3–5*). Although a 2008 literature review found no clear evidence of more rapid decline among older adults (*6*), a 2010 study noted a statistically significant decline in antibody titers

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http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6332a3.htm

Immunization Recommendations: Everyone! Every Year!

- All persons 6 months of age and older should be given flu vaccine every year
- Vaccinate close contacts of those at high risk to provide another layer of protection including:
  - Healthcare Personnel (HCP)
  - Parents & contacts of infants less than 6 months of age
- Continue to ensure that persons at higher risk for influenza-related complications are vaccinated

Three Types of 2015-16 Influenza Vaccine

- **IIV3**; Inactivated Influenza Vaccine, Trivalent
- **IIV4**; Inactivated Influenza Vaccine, Quadrivalent
- **LAIV4**; Live, Attenuated Influenza Vaccine, Quadrivalent

- All 3 influenza vaccine types have:
  - Same "A" strains and "B" strains
  - There is a new "A" strain and a new "B" strain for the 2015-16 flu season

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Two Types of Inactivated Influenza Vaccine (IIV)

Inactivated Influenza Vaccine, Trivalent	Inactivated Influenza Vaccine, Quadrivalent
IIV3 (flu shot, IM)	IIV4 (flu shot, IM)
3 flu strains: 2 A, 1 B	4 flu strains: 2 A, 2 B
Age 6 months/older**	Age 6 months/older**
For persons who: - Are healthy - Have any underlying medical condition - Are pregnant	For persons who: - Are healthy - Have any underlying medical condition - Are pregnant

**Age indication varies by vaccine brand

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Live, Attenuated Influenza Vaccine (LAIV)

Live, Attenuated Influenza Vaccine, Quadrivalent
LAIV4 (intranasal)
4 flu strains: 2 A, 2 B
Ages 2-49 years
For persons who: - Are healthy - Have no underlying medical conditions (precaution) - Are not pregnant

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Key Points for LAIV4

- New data from recent flu seasons indicated that there was no better protection from LAIV over IIV
- There is no preference between LAIV and IIV for any age group during the 2015-16 flu season
- Healthy persons 2 through 49 years of age who have no contraindications or precautions are recommended to receive any age appropriate LAIV4, IIV3 or IIV4 dose
  - This includes children aged 2 through 8 years
- If LAIV4 is not given on the same day with other live vaccines (MMR, Varicella) must be separated by 28 days (Live-Live rule)

A Look at IIV4 ID and IIV3 High Dose

Inactivated Influenza Vaccine Intradermal, Quadrivalent	**Inactivated Influenza Vaccine, High Dose, Trivalent**
• IIV4 ID (flu shot)	• IIV3 High Dose (flu shot)
• 4 flu strains: 2 A, 2 B	• 3 flu strains: 2 A, 1 B
• Age 18 through 64 years	• Age 65 years and older
• Use manufacturer's prefilled syringe • Administer ID over deltoid muscle of upper arm • Has less antigen per strain than a standard flu vaccine	• Use manufacturer's prefilled syringe • Administer IM • Has 4 times more antigen than standard flu vaccine
For persons who: - Are healthy - Have any underlying medical condition - Are pregnant	For persons who: - Are healthy - Have any underlying medical condition

*Do not miss an opportunity to vaccinate—if unavailable, use another age-appropriate influenza vaccine

Review of ccIIV3 and RIV3

Cell Culture-Based Inactivated Influenza Vaccine, Trivalent	**Recombinant Hemagglutinin (HA) Influenza Vaccine, Trivalent**
• ccIIV3 (flu shot, IM)	• RIV3 (flu shot, IM)
• Flucelvax®, Novartis	• FluBlok®, Protein Sciences
• 3 flu strains: 2 A, 1 B	• 3 flu strains: 2 A, 1 B
• Age 18 years and older	• Age 18 years and older
• Cannot be considered completely egg-free • Trace egg protein	• Produced in an insect cell line • Egg-free; no egg protein
For persons who: - Are healthy - Have any underlying medical condition - Are pregnant	For persons who: - Are healthy - Have any underlying medical condition - Are pregnant

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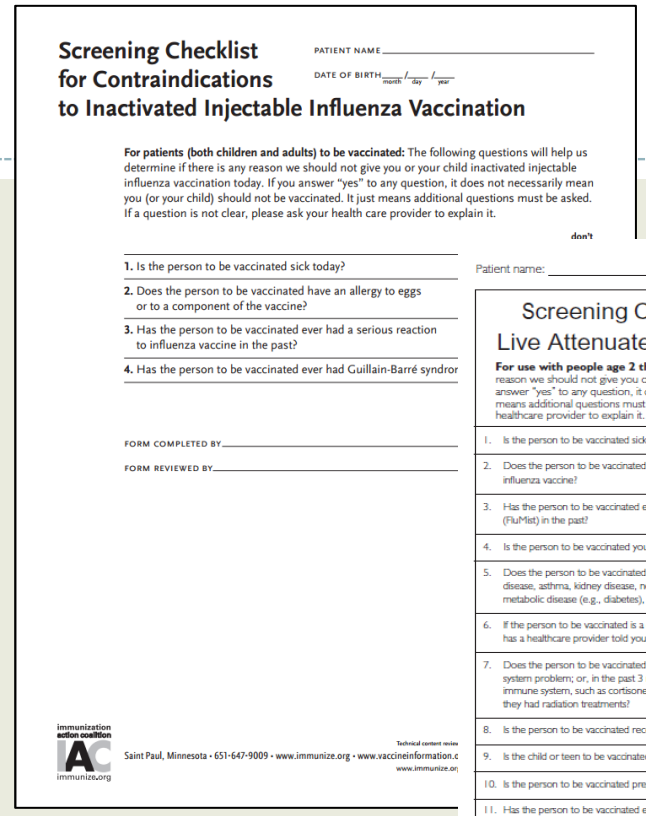
*Do not miss an opportunity to vaccinate—if unavailable, use another age-appropriate influenza vaccine

Stratis® Needle-free Jet Injector

Image courtesy of Pharmajet at http://pharmajet.com/

- FDA approved Afluria® IM via jet injector for persons 18-64 years
  - Approval August 2014
- Vaccine delivered by narrow precise fluid stream injection
  - Penetrates skin in about 1/10 of a second
- Spring-operated, requiring no external power source
- Sterile, single-use, auto-disabling syringe
- All other inactivated influenza vaccines are approved for administration by sterile needle and syringe only

Screen for Contraindications and Precautions to Influenza Vaccine



Screening Checklist for Contraindications to Inactivated Injectable Influenza Vaccination

PATIENT NAME _____

DATE OF BIRTH ___/___/___ (month/day/year)

For patients (both children and adults) to be vaccinated: The following questions will help us determine if there is any reason we should not give you or your child inactivated injectable influenza vaccination today. If you answer "yes" to any question, it does not necessarily mean you (or your child) should not be vaccinated. It just means additional questions must be asked. If a question is not clear, please ask your health care provider to explain it.

don't

1. Is the person to be vaccinated sick today?
2. Does the person to be vaccinated have an allergy to eggs or to a component of the vaccine?
3. Has the person to be vaccinated ever had a serious reaction to influenza vaccine in the past?
4. Has the person to be vaccinated ever had Guillain-Barré syndror

FORM COMPLETED BY _____

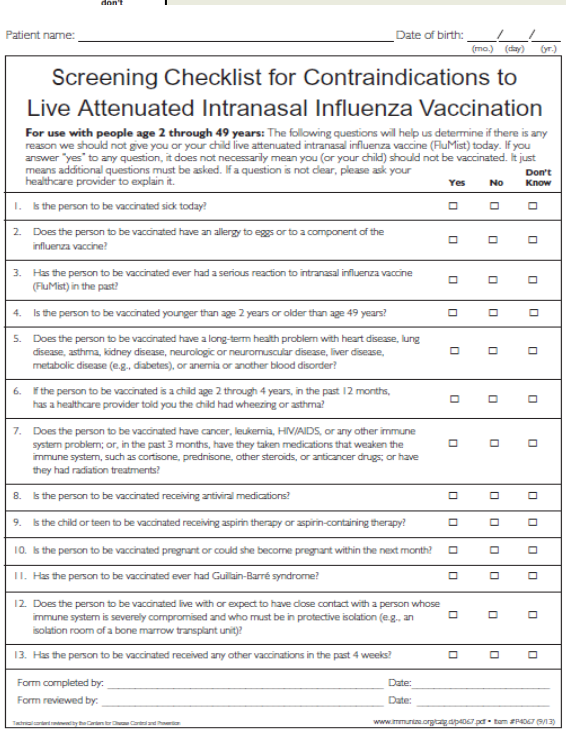
FORM REVIEWED BY _____

immunization action coalition IAC immunize.org

Technical content review

Saint Paul, Minnesota • 651-647-9009 • www.immunize.org • www.vaccineinformation.c

www.immunize.or



Patient name: _____ Date of birth: ___/___/___ (mo.) (day) (yr.)

Screening Checklist for Contraindications to Live Attenuated Intranasal Influenza Vaccination

For use with people age 2 through 49 years: The following questions will help us determine if there is any reason we should not give you or your child live attenuated intranasal influenza vaccine (FluMist) today. If you answer "yes" to any question, it does not necessarily mean you (or your child) should not be vaccinated. It just means additional questions must be asked. If a question is not clear, please ask your healthcare provider to explain it.

	Yes	No	Don't Know
1. Is the person to be vaccinated sick today?	☐	☐	☐
2. Does the person to be vaccinated have an allergy to eggs or to a component of the influenza vaccine?	☐	☐	☐
3. Has the person to be vaccinated ever had a serious reaction to intranasal influenza vaccine (FluMist) in the past?	☐	☐	☐
4. Is the person to be vaccinated younger than age 2 years or older than age 49 years?	☐	☐	☐
5. Does the person to be vaccinated have a long-term health problem with heart disease, lung disease, asthma, kidney disease, neurologic or neuromuscular disease, liver disease, metabolic disease (e.g., diabetes), or anemia or another blood disorder?	☐	☐	☐
6. If the person to be vaccinated is a child age 2 through 4 years, in the past 12 months, has a healthcare provider told you the child had wheezing or asthma?	☐	☐	☐
7. Does the person to be vaccinated have cancer, leukemia, HIV/AIDS, or any other immune system problem; or, in the past 3 months, have they taken medications that weaken the immune system, such as cortisone, prednisone, other steroids, or anticancer drugs; or have they had radiation treatments?	☐	☐	☐
8. Is the person to be vaccinated receiving antiviral medications?	☐	☐	☐
9. Is the child or teen to be vaccinated receiving aspirin therapy or aspirin-containing therapy?	☐	☐	☐
10. Is the person to be vaccinated pregnant or could she become pregnant within the next month?	☐	☐	☐
11. Has the person to be vaccinated ever had Guillain-Barré syndrome?	☐	☐	☐
12. Does the person to be vaccinated live with or expect to have close contact with a person whose immune system is severely compromised and who must be in protective isolation (e.g., an isolation room of a bone marrow transplant unit)?	☐	☐	☐
13. Has the person to be vaccinated received any other vaccinations in the past 4 weeks?	☐	☐	☐

Form completed by: _____ Date: _____

Form reviewed by: _____ Date: _____

Technical content reviewed by the Centers for Disease Control and Prevention

www.immunize.org/catg.d/p4067.pdf • Item #P4067 (9/13)

Immunization Action Coalition • 1573 Selby Ave. • St. Paul, MN 55104 • (651) 647-9009 • www.immunize.org • www.vaccineinformation.org

- Screen for precautions and contraindications
- Use of a standardized form
  - Will help prevent errors
- Document precautions or contraindications in the chart or EMR

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www.immunize.org

LAIV4

LAIV4 Contraindications

Persons Who Should Not Receive LAIV4:

- Aged less than 2 years or older than 49 years
- History of severe allergic reaction to a previous dose of flu vaccine or one of its components
- Pregnant women
- Immunosuppressed
- Received flu antivirals within past 48 hours
- Egg allergy
- Aged 2-4 years with a history of asthma or recurrent wheezing within the past 12 months
- Aged 2 through 17 years receiving aspirin or aspirin-containing products

LAIV4 Precautions

Persons Who in Certain Circumstances May Receive LAIV4:

- Aged 5 years and older with asthma
- Medical conditions that put them at higher risk for complications due to influenza; i.e., chronic pulmonary, cardio, renal, hepatic, neurologic, hematologic or metabolic disorders (diabetes))
- Moderate to severe illness with or without fever
- A history of Guillian-Barre syndrome within 6 weeks of receiving flu vaccine

Note: Persons who care for severely immunosuppressed persons requiring a protective environment should not receive LAIV, or avoid contact for 7 days after receiving LAIV

Prevention and Control of Influenza with Vaccines, Recommendations of ACIP—U.S. 2015-2016
www.cdc.gov/vaccines

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Contraindications and Precautions to IIV3/IIV4

- Contraindications (IIV3/IIV4)
  - Severe allergic reaction to a previous dose of flu vaccine or one of its components
- Precautions (IIV3/IIV4)
  - Moderate-to-severe acute illness with or without fever
  - History of Guillain Barré Syndrome (GBS) within 6 weeks of any previous influenza vaccination
- Egg Allergy is a precaution for IIV3/IIV4:
  - May be safe to administer IIV3, IIV4 or ccIIV3
  - See next slide for egg allergy screening algorithm
    - Used to determine safety

Influenza Vaccine Screening Algorithm for Persons who Report Egg Allergy

REMINDER! A prior severe allergic reaction to influenza vaccine, regardless of the component suspected to be responsible for the reaction, is a contraindication to receiving influenza vaccine.

Can the individual eat lightly cooked eggs (e.g. scrambled eggs) without reaction?*

YES → Administer vaccine per usual protocol. (IIV3/IIV4/LAIV4)

NO ↓

After eating eggs or egg-containing foods, does the person experience ONLY hives?

YES → **Administer RIV3 (age 18 years & older) OR administer IIV3 or IIV4.** Keep patient sitting and observe for reaction for at least 30 minutes after vaccination. **Do not administer LAIV4.**

NO ↓

Does the individual experience other symptoms?
- Cardiovascular changes (e.g. hypotension)
- Respiratory distress (e.g. wheezing)
- Gastrointestinal (e.g. nausea/vomiting)
- Reaction requiring epinephrine
- Reaction requiring emergency medical attention

YES → **Administer RIV3 (age 18 years & older).** If RIV3 not available; **IIV3 or IIV4 should be administered** by a physician with experience in the recognition and management of severe allergic conditions. Keep patient sitting and observe for reaction for at least 30 minutes after vaccination. **Do not administer LAIV4.**

2015-16 Influenza Vaccines

IIV: Inactivated Influenza Vaccine, trivalent **(IIV3)** or quadivalent **(IIV4)**
LAIV4: Live, Attenuated, Influenza Vaccine, quadrivalent
ccIIV3: Cell Culture-based Inactivated Influenza Vaccine, trivalent
RIV3: Recombinant Influenza Vaccine, trivalent

Vaccine Type	Brand	Age Indication	Manufacturer
TRIVALENT (IIV3)			
IIV3	*Fluzone®	6 months and older	sanofi pasteur
IIV3	Fluvirin™	4 years & older	Novartis
IIV3/Jet Injector[1]	Afluria®	9 years & older	bioCSL
IIV3 High Dose	Fluzone High Dose®	65 years & older	sanofi pasteur
ccIIV3	Flucelvax®	18 years & older	Novartis
RIV3	Flublok®	18 years & older	Protein Sciences
QUADRIVALENT (IIV4 & LAIV4)			
IIV4	*Fluzone Quadrivalent®	6 months and older	sanofi pasteur
IIV4	*Fluarix Quadrivalent®	3 years & older	GlaxoSmithKline
IIV4	*FluLaval Quadrivalent™	3 years & older	GlaxoSmithKline
IIV4 ID	Fluzone Intradermal®	18 through 64 years	sanofi pasteur
LAIV4	*FluMist Quadrivalent™	Healthy, non-pregnant persons 2 through 49 years	MedImmune

*Available for VFC Providers

[1]Afluria was approved by the Food and Drug Administration for intramuscular administration with the PharmaJet Stratis needle-free jet injector system for persons 18 through 64 years of age

Influenza Dosage Based on Age

- Dosing has not changed from previous flu seasons
- 0.25 mL is a full dose for a child aged 6-35 months
  - If 2 doses are needed, give 2 doses of 0.25 mL separated by 4 weeks
- 0.5 mL is a full dose for persons aged 3 years & older
  - If 2 doses are needed, give 2 doses of 0.5 mL separated by 4 weeks
- For LAIV4:
  - Dosage is the same for all persons aged 2-49 years
  - If a child (aged 2-8 years) needs 2 doses, give 2 doses of 0.2 mL

Inactivated Influenza Vaccine (IIV3 & IIV4) Dosages		
Age	Dose	Route
6-35 months	0.25 mL	IM
3 years & older	0.5 mL	IM

Live, Attenuated Influenza Vaccine (LAIV4) Dosages		
Age	Dose	Route
2-49 years	0.2 mL (0.1 mL/nostril)	Intranasal

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2015-16 Influenza 2-Dose Recommendation

- Administer **2 doses** of flu vaccine to children aged 6 months through 8 years who have not received at least 2 doses of seasonal flu vaccine **prior to July 1, 2015**
  - Seasonal flu vaccines are IIV3, IIV4, LAIV3 or LAIV4
  - Doses of monovalent H1N1 vaccine do not count towards seasonal flu assessment
- Administer **1 dose** of 2015-16 flu vaccine to:
  - Children aged 6 months through 8 years who have received at least 2 doses of seasonal flu vaccine **prior to July 1, 2015**
  - All persons 9 years of age or older
- Utilize MCIR to determine who needs 2 flu doses
  - Ensure all flu vaccine doses are entered into MCIR

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Case Studies: Assessing the Vaccine Record for Children 6mos – 8yrs

Has the child received at least 2 or more doses* of seasonal influenza vaccine (IIV or LAIV) prior to July 1, 2015

Yes → Give 1 dose of 2015-16 flu vaccine

No/Not Sure → Give 2** doses of 2015-16 flu vaccine

*The 2 doses of flu vaccine need not have been received in the same season or consecutive seasons

**Separate 2 doses of flu vaccine by at least 4 weeks

1. John Born 1/1/2011 (4 years old)

IIV4	10/01/2013

2. Jane Born 1/1/2009 (6 years old)

mono-H1N1	11/15/2009
IIV3	12/6/2012

3. Jake Born 1/1/2010 (5 years old)

IIV3	10/11/2011
LAIV4	11/22/2014

4. Julie Born 1/1/2013 (2 years old)

IIV4	11/2/2014
IIV4	08/11/2015

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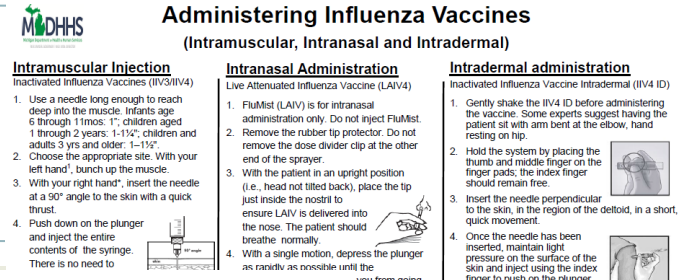
Treating Influenza

- Consider antivirals for any persons with confirmed or suspected influenza who:
  - Are sick with the flu (i.e., people who are in the hospital)
  - Have a high-risk health condition like asthma, diabetes or chronic heart disease
  - Other people may be treated with antiviral drugs by their provider
- Treatment should be initiated as early as possible (generally with in 48 hours of onset) to provide the most benefit
  - Instruct high risk persons to contact HCP when first exhibiting influenza-like symptoms
- Current recommendations for the use of antiviral medications for seasonal influenza may be found at: http://www.cdc.gov/flu/professionals/antivirals/index.htm

Influenza Education Resources

Influenza handouts:

- Administering Influenza Vaccine (Intramuscular, Intranasal and Intradermal)
- Seasonal Influenza Vaccines 2015-16
- Who Needs Two Doses of 2015-16 Seasonal Influenza Vaccine?
- Influenza Vaccine screening Algorithm for Persons who Report Egg allergy
- A Quick Look at Live, Attenuated Influenza Vaccine, Quadrivalent (LAIV4)
- A Quick Look at Inactivated Influenza Vaccines (trivalent and quadrivalent): IIV3, IIV4, IIV4 ID, IIV3 High Dose
- Influenza VIS
- Disposing of Unused or Expired Vaccines in Michigan



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Administering Influenza Vaccines

(Intramuscular, Intranasal and Intradermal)

Intramuscular Injection

Inactivated Influenza Vaccines (IIV3/IIV4)

1. Use a needle long enough to reach deep into the muscle. Infants age 6 through 11mos: 1"; children aged 1 through 2 years: 1-1¼"; children and adults 3 yrs and older: 1–1½".
2. Choose the appropriate site. With your left hand[1], bunch up the muscle.
3. With your right hand*, insert the needle at a 90° angle to the skin with a quick thrust.
4. Push down on the plunger and inject the entire contents of the syringe. There is no need to

Intranasal Administration

Live Attenuated Influenza Vaccine (LAIV4)

1. FluMist (LAIV) is for intranasal administration only. Do not inject FluMist.
2. Remove the rubber tip protector. Do not remove the dose divider clip at the other end of the sprayer.
3. With the patient in an upright position (i.e., head not tilted back), place the tip just inside the nostril to ensure LAIV is delivered into the nose. The patient should breathe normally.
4. With a single motion, depress the plunger as rapidly as possible until the

you from going

ie-divider clip

e

aining vaccine.

container.

Intradermal administration

Inactivated Influenza Vaccine Intradermal (IIV4 ID)

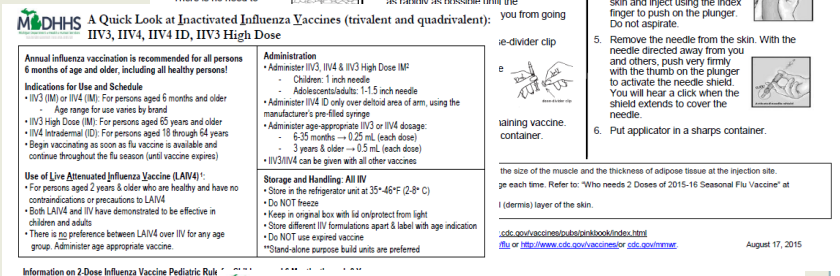
1. Gently shake the IIV4 ID before administering the vaccine. Some experts suggest having the patient sit with arm bent at the elbow, hand resting on hip.
2. Hold the system by placing the thumb and middle finger on the finger pads; the index finger should remain free.
3. Insert the needle perpendicular to the skin, in the region of the deltoid, in a short, quick movement.
4. Once the needle has been inserted, maintain light pressure on the surface of the skin and inject using the index finger to push on the plunger. Do not aspirate.
5. Remove the needle from the skin. With the needle directed away from you and others, push very firmly with the thumb on the plunger to activate the needle shield. You will hear a click when the shield extends to cover the needle.
6. Put applicator in a sharps container.

the size of the muscle and the thickness of adipose tissue at the injection site.
ge each time. Refer to: "Who needs 2 Doses of 2015-16 Seasonal Flu Vaccine" at

l (dermis) layer of the skin.

:cdc.gov/vaccines/pubs/pinkbook/index.html
flu or http://www.cdc.gov/vaccines/or cdc.gov/mmwr.

August 17, 2015



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A Quick Look at Inactivated Influenza Vaccines (trivalent and quadrivalent): IIV3, IIV4, IIV4 ID, IIV3 High Dose

Annual influenza vaccination is recommended for all persons 6 months of age and older, including all healthy persons!

Indications for Use and Schedule
- IIV3 (IM) or IIV4 (IM): For persons aged 6 months and older
  - Age range for use varies by brand
- IIV3 High Dose (IM): For persons aged 65 years and older
- IIV4 Intradermal (ID): For persons aged 18 through 64 years
- Begin vaccinating as soon as flu vaccine is available and continue throughout the flu season (until vaccine expires)

Use of Live Attenuated Influenza Vaccine (LAIV4)[1]:
- For persons aged 2 years & older who are healthy and have no contraindications or precautions to LAIV4
- Both LAIV4 and IIV have demonstrated to be effective in children and adults
- There is no preference between LAIV4 over IIV for any age group. Administer age appropriate vaccine.

Administration
- Administer IIV3, IIV4 & IIV3 High Dose IM[2]
  - Children: 1 inch needle
  - Adolescents/adults: 1-1.5 inch needle
- Administer IIV4 ID only over deltoid area of arm, using the manufacturer's pre-filled syringe
- Administer age-appropriate IIV3 or IIV4 dosage:
  - 6-35 months → 0.25 mL (each dose)
  - 3 years & older → 0.5 mL (each dose)
- IIV3/IIV4 can be given with all other vaccines

Storage and Handling: All IIV
- Store in the refrigerator unit at 35°-46°F (2-8° C)
- Do NOT freeze
- Keep in original box with lid on/protect from light
- Store different IIV formulations apart & label with age indication
- Do NOT use expired vaccine

**Stand-alone purpose build units are preferred

Information on 2-Dose Influenza Vaccine Pediatric Rule
- Some children aged 6 months through 8 years may requi
- Children 6 months through 8 years who received at least of 2015-16 flu vaccine.
  - If a child has not received 2 or more doses before July 1,
  - To determine who needs 2 doses, refer to "Who Needs 2
- Persons aged 9 years and older only need 1 dose of flu v

Contraindications (Persons who should not receive IIV
- Serious allergic reaction (e.g. anaphylaxis) to a previous

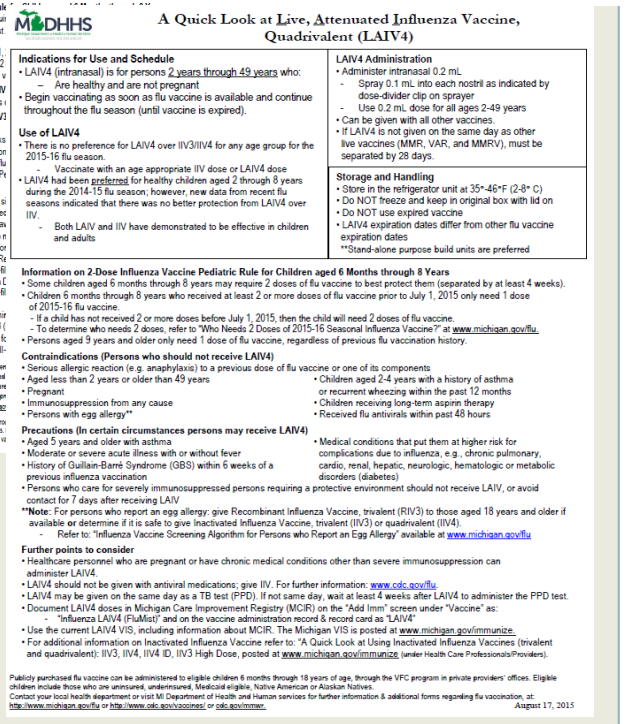
Precautions (In certain circumstances may receive IIV)
- Moderate or severe acute illness.
- History of Guillain-Barré Syndrome (GBS) within 6 weeks

**Note: For persons who report an egg allergy: give Recon available or determine if it is safe to give Inactivated Influ
- Refer to: "Influenza Vaccine Screening Algorithm for Pe

Further points to consider
- Febrile seizures occur in 2-5% of all children. Following si seizures (<1 per 1,000 children vaccinated) was observed & PCV13 versus risk; no changes in recommendation has
- Give only IIV formulations with antiviral medications. Do n
- Use current IIV VIS including information about MCIR (for
- Document all flu doses in Michigan Care Improvement Re
  - IIV3= multi-dose vials as "Influenza IIV3 (Inject)"; in pre-fil
  - IIV4 ID= "Influenza Intradermal IIV4 (P-Free)"; IIV3 High D
  - IIV4= multi-dose vials as "Influenza IIV4 (Inject)", in pre-fi single-dose vials (0.5mL) as "Influenza IIV4 (P-free inj)"
- Document the type of vaccine given on the vaccine admir
- ACIP has not expressed a preference between any IIV3 (
- There are 2 other IIV3 formulations not included on this fa Vaccine, trivalent (RIV3; Flublok, Protein Science) or cell-

[1]Further guidance on the influenza recommendations, refer to the "Preven 2015-16 Influenza Season," MMWR, Vol. 64(30);818-825 8/07/15 located Quadrivalent (LAIV4)" at www.michigan.gov/immunize (under Health Care [2]Administration site (anterolateral thigh or deltoid) will vary by age. Use pr Vaccines (intramuscular, intranasal and intradermal) at www.michigan.go

Publicly purchased flu vaccine can be administered to eligible children 6 months thro are uninsured, underinsured, Medicaid eligible, Native American or Alaskan Natives. Health and Human Services for further information & additional forms regarding flu va



MDHHS

A Quick Look at Live, Attenuated Influenza Vaccine, Quadrivalent (LAIV4)

Indications for Use and Schedule
- LAIV4 (intranasal) is for persons 2 years through 49 years who:
  - Are healthy and are not pregnant
- Begin vaccinating as soon as flu vaccine is available and continue throughout the flu season (until vaccine is expired).

Use of LAIV4
- There is no preference for LAIV4 over IIV3/IIV4 for any age group for the 2015-16 flu season:
  - Vaccinate with an age appropriate IIV dose or LAIV4 dose
- LAIV4 had been preferred for healthy children aged 2 through 8 years during the 2014-15 flu season; however, new data from recent flu seasons indicated that there was no better protection from LAIV4 over IIV.
  - Both LAIV and IIV have demonstrated to be effective in children and adults

LAIV4 Administration
- Administer intranasal 0.2 mL
  - Spray 0.1 mL into each nostril as indicated by dose-divider clip on sprayer
  - Use 0.2 mL dose for all ages 2-49 years
- Can be given with all other vaccines.
- If LAIV4 is not given on the same day as other live vaccines (MMR, VAR, and MMRV), must be separated by 28 days.

Storage and Handling
- Store in the refrigerator unit at 35°-46°F (2-8° C)
- Do NOT freeze and keep in original box with lid on
- Do NOT use expired vaccine
- LAIV4 expiration dates differ from other flu vaccine expiration dates

**Stand-alone purpose build units are preferred

Information on 2-Dose Influenza Vaccine Pediatric Rule for Children aged 6 Months through 8 Years
- Some children aged 6 months through 8 years may require 2 doses of flu vaccine to best protect them (separated by at least 4 weeks).
- Children 6 months through 8 years who received at least 2 or more doses of flu vaccine prior to July 1, 2015 only need 1 dose of 2015-16 flu vaccine.
  - If a child has not received 2 or more doses before July 1, 2015, then the child will need 2 doses of flu vaccine.
  - To determine who needs 2 doses, refer to "Who Needs 2 Doses of 2015-16 Seasonal Influenza Vaccine?" at www.michigan.gov/flu.
- Persons aged 9 years and older only need 1 dose of flu vaccine, regardless of previous flu vaccination history.

Contraindications (Persons who should not receive LAIV4)
- Serious allergic reaction (e.g. anaphylaxis) to a previous dose of flu vaccine or one of its components
- Aged less than 2 years or older than 49 years
- Pregnant
- Immunosuppression from any cause
- Persons with egg allergy**
- Children aged 2-4 years with a history of asthma or recurrent wheezing within the past 12 months
- Children receiving long-term aspirin therapy
- Received flu antivirals within past 48 hours

Precautions (In certain circumstances persons may receive LAIV4)
- Aged 5 years and older with asthma
- Moderate or severe acute illness with or without fever
- History of Guillain-Barré Syndrome (GBS) within 6 weeks of a previous influenza vaccination
- Persons who care for severely immunosuppressed persons requiring a protective environment should not receive LAIV, or avoid contact for 7 days after receiving LAIV
- Medical conditions that put them at higher risk for complications due to influenza, e.g., chronic pulmonary, cardio, renal, hepatic, neurologic, hematologic or metabolic disorders (diabetes)

**Note: For persons who report an egg allergy: give Recombinant Influenza Vaccine, trivalent (RIV3) to those aged 18 years and older if available or determine if it is safe to give Inactivated Influenza Vaccine, trivalent (IIV3) or quadrivalent (IIV4).
- Refer to: "Influenza Vaccine Screening Algorithm for Persons who Report an Egg Allergy" available at www.michigan.gov/flu

Further points to consider
- Healthcare personnel who are pregnant or have chronic medical conditions other than severe immunosuppression can administer LAIV4.
- LAIV4 should not be given with antiviral medications; give IIV. For further information: www.cdc.gov/flu.
- LAIV4 may be given on the same day as a TB test (PPD). If not same day, wait at least 4 weeks after LAIV4 to administer the PPD test.
- Document LAIV4 doses in Michigan Care Improvement Registry (MCIR) on the "Add Imm" screen under "Vaccine" as:
  - "Influenza LAIV4 (FluMist)" and on the vaccine administration record & record card as "LAIV4"
- Use the current LAIV4 VIS, including information about MCIR. The Michigan VIS is posted at www.michigan.gov/immunize.
- For additional information on Inactivated Influenza Vaccine refer to: "A Quick Look at Using Inactivated Influenza Vaccines (trivalent and quadrivalent): IIV3, IIV4, IIV4 ID, IIV3 High Dose, posted at www.michigan.gov/immunize (under Health Care Professionals/Providers).

Publicly purchased flu vaccine can be administered to eligible children 6 months through 18 years of age, through the VFC program in private providers' offices. Eligible children include those who are uninsured, underinsured, Medicaid eligible, Native American or Alaskan Natives.
Contact your local health department or visit MI Department of Health and Human services for further information & additional forms regarding flu vaccination, at: http://www.michigan.gov/flu or http://www.cdc.gov/vaccines/ or cdc.gov/mmwr.

August 17, 2015

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Michigan Department of Health & Human Services

Influenza Resources may be found at www.michigan.gov/flu

Key Points About the 2015-16 Influenza Season

- Do not miss an opportunity to vaccinate!
  - If unavailable, use another age-appropriate flu vaccine
- Recommend and offer influenza vaccine to everyone
  - Ensure office staff is vaccinated
- Be sure to vaccinate everyone 6 months and older with influenza vaccine
- Be sure to use the correct vaccine based on age indication and the age appropriate dosage
  - Triple check before administering and label your vaccine

MDHHS
Michigan Department of Health & Human Services

Ensure Protection from Other Respiratory Vaccine-Preventable Diseases

MDHHS
Michigan Department of Health & Human Services

Pneumococcal

- Most common pneumococcal disease is pneumococcal pneumonia which is a frequent complication of influenza
  - Accounts for an estimated 400,000 hospitalizations per year
  - Case fatality rate 5-7%, higher in elderly
- 68.6% of Michigan adults age 65 and older received at least 1 PPSV23 dose by 2013*
  - Healthy People 2020 goal is 90%
- Two vaccines are available:
  - Pneumococcal Conjugate Vaccine (PCV13)
  - Pneumococcal Polysaccharide Vaccine (PPSV23)
- Recommendations for use based on age and risk

MDHHS Michigan Department of Health & Human Services

* Based on CDC Behavioral Risk Factor Surveillance System (BRFSS) data

Pneumococcal Vaccines	Routine Recommendations	Recommendations For High Risk Conditions
PCV13	• Give IM at 2, 4, 6, and 12-15 mos • Give 1 dose to adults 65 years and older who never received PCV13 (at any age)	• Children aged 24-71 months at high risk may need 1-2 doses of PCV13 based on previous vaccine history • Persons aged 6-64 years with certain risk conditions should receive 1 dose (if no previous dose of PCV13 given) -Immunosuppression caused by disease or medications, HIV, functional or anatomic asplenia including sickle cell, general malignancy -CSF leaks, cochlear implant

Key points:

- PCV13 only indicated for high risk persons who have not received a previous dose of PCV13
- Remember to utilize resources/guidance documents when assessing for who needs pneumococcal vaccines

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Michigan Department of Health & Human Services

Pneumococcal Vaccines	Routine Recommendations	Recommendations For High Risk Conditions
PPSV23 (minimum interval at least 5 years between 2 doses of PPSV23)	• Give 1 dose of PPSV23 at/after age 65 years	• Administer **1 dose** to persons aged 19-64 years who: -Smoke cigarettes or have asthma • Administer **1 dose** to persons aged 2-64 years with: -Chronic pulmonary, kidney or heart disease, diabetes mellitus, alcoholism, CSF leaks or cochlear implants • Administer **2 doses** to persons aged 2-64 years with: -Immunosuppression caused by disease or medications, HIV, functional or anatomic asplenia, sickle cell, malignancy

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Key points:
- Adults 65 years or older with no history of a PCV13 dose (at any age) or one dose of PPSV23 at/after age 65 years, give:
  - 1 dose of PCV13 first (preferred); then 1 dose of PPSV23 12 months later
- If PPSV23 administered first; give PCV13 minimum of 1 year after PPSV23

Pertussis

- Pertussis disease persists across the U.S.
  - 1,424 cases in MI in 2014
  - 43% increase from 2013
  - Infants less than age 12 months at greatest risk for hospitalization; mortality
  - CDC estimates more than 1 mil cases in adolescents/adults
- Vaccines available: DTaP and Tdap
- Vaccination is the best defense available

On May 17, 2012, Francesca Marie McNally lost her life to pertussis. She was 3 months old. Her mother, Veronica, believes she had pertussis and passed it on to Francesca and her 3-year-old son. **For more information: www.frannystrong.org**

MDHHS Michigan Department of Health & Human Services

*Summary of Vaccine Preventable Diseases Reported to the Michigan Department of Health and Human Services, 2014, www.michigan.gov/immunize

Tetanus, Diphtheria and Pertussis Containing Vaccines and Strategies

- Ensure children are up-to-date!
  - DTaP routinely given IM 2, 4, 6, 15-18 months and 4-6 years
- Tdap routinely given at age 11-12 years as a single dose
  - Catch-up adolescents & adults aged 13 years and older without a previous dose of Tdap
- Maternal Vaccination
  - Pregnant women should receive 1 dose of Tdap during **every** pregnancy
    - Optimal timing is between 27-36 weeks gestation
- "Cocooning" the infant

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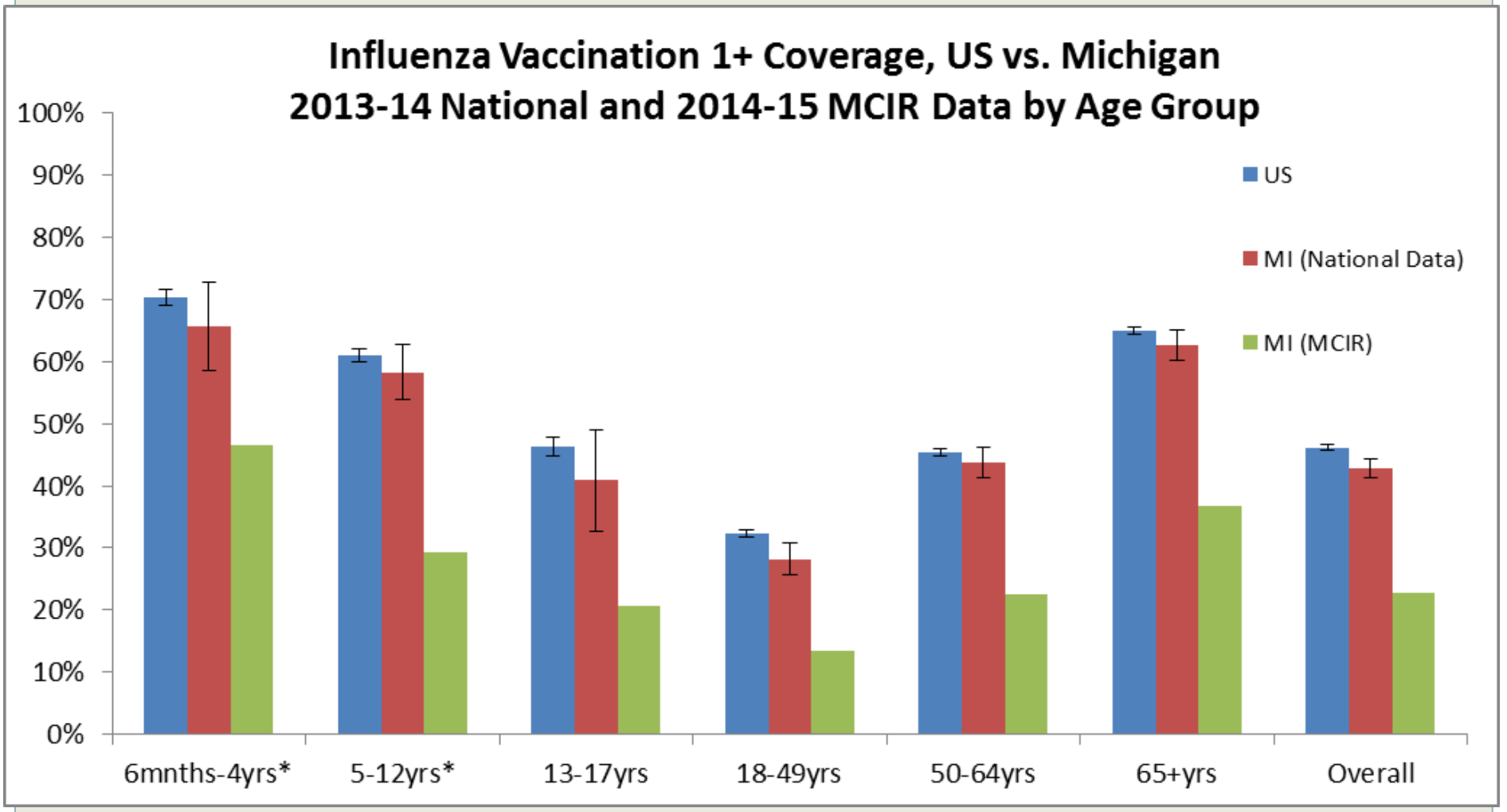
Michigan Department of Health & Human Services

Influenza Vaccination Coverage Levels and Strategies to Increase Coverage

MDHHS
Michigan Department of Health & Human Services



* The resource is a combination of surveys from the National Immunization Survey, National Flu Survey and BRFSS. FluVaxView website at: http://www.cdc.gov/flu/fluvaxview/index.htm

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Michigan Department of Health & Human Services

2014-15 Flu Vaccination Coverage – MCIR Data

1+ Dose Coverage

Age Group	MI Coverage	Compared to 2013-14
6 months-4 years	46.6%	↓ **3.2%**
5-12 years	29.3%	↓ **2.7%**
13-17 years	20.6%	↓ **1.2%**
18-24 years	10.8%	↑ **0.7%**
25-49 years	14.3%	↑ **1.3%**
50-64 years	22.5%	↑ **2.4%**
65 years+	36.8%	↑ **5.5%**
Overall (6 mos+)	**22.8%**	↑ **1.3%**

2-Dose Coverage

Age Group	MI Coverage
6 mos.-8 yrs.	9.4%

MCIR Data, 2014-15 Flu Season

MDHHS
Michigan Department of Health & Human Services

2014-15 Adjusted Vaccine Effectiveness Against A and B

Influenza A and B	VE* (%)	95% CI
All ages	**23**	**(14 to 31)**
6 months-8 years	27	(9 to 42)
9-17 years	29	(6 to 46)
18-49 years	10	(-10 to 26)
50-64 years	27	(6 to 44)
65+ years	36	(8 to 55)

*Adjusted for study site, age, sex, race/ethnicity, self-rated health, and days from illness onset, and calendar time

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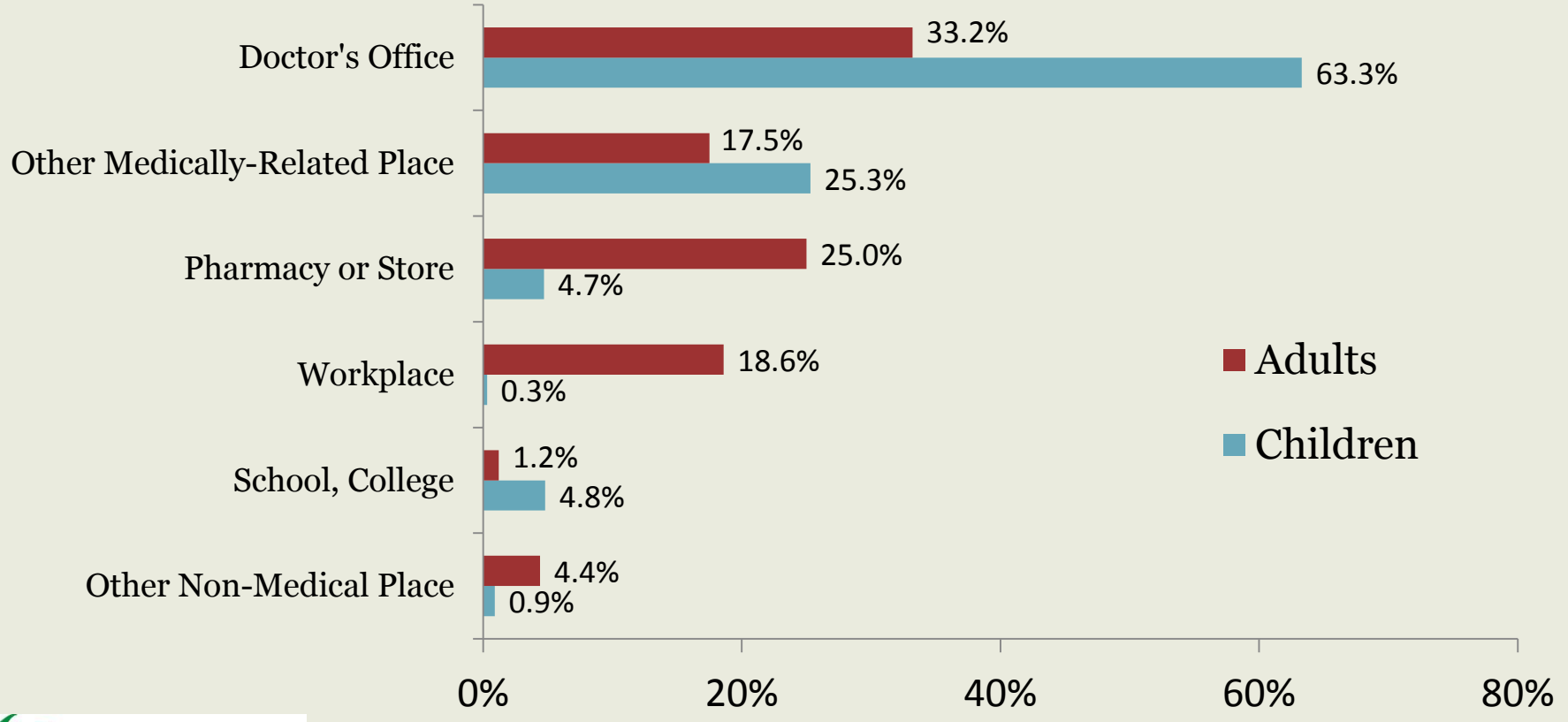
Presented at June 2015 ACIP Meeting:
http://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2015-06/flu-02-Flannery.pdf

Vaccines Available in Multiple Locations

- Place of flu vaccination for children and adults, November 2014, National Immunization Survey & National Internet Flu Survey



http://www.cdc.gov/flu/fluvaxview/nifs-estimates-nov2014.htm

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Healthcare Personnel (HCP) and Influenza Vaccination

- Early 2014-15 estimates, 64.3% of HCP in the U.S. received seasonal flu vaccine
  - HCP coverage with employer requirement: 85.8%
  - HCP coverage without employer requirement: 43.4%
  - Healthy People 2020 goal: 90%
- HCP flu coverage by work setting
  - Hospital: 78.7%
  - Long-term care facility: 54.4%
- Most common reason for non-vaccination was "I don't think that flu vaccine work"

http://www.cdc.gov/flu/fluvaxview/hcp-ips-nov2014.htm

Strategies to Increase Flu Coverage

- Recommend and offer flu vaccine
  - Include it with "these are the vaccines you are going to receive today"
  - Document vaccine refusal
- Reduce missed opportunities
  - Standing orders
  - Vaccine-only visits
- Utilize MCIR
  - Assess for immunizations at every visit
  - If a patient needs a 2nd dose, schedule the appointment while they are in the office
  - Send reminder and recall messages to those needing vaccine throughout the flu season
- Ensure all employees receive flu vaccine

MDHHS Michigan Department of Health & Human Services

Incorporating strategies such as these will help increase immunization rates for all vaccines you administer.

Tell A Personal Story

MDHHS
Michigan Department of Health & Human Services

Why get a flu vaccine?

Ask Niko Yaksich of Michigan.

Even healthy people can get the flu and it can be very serious. This year and every year, get vaccinated against the flu. It could save a life.

Niko's story

In 2003, I lost my sister Alana to the flu. She was a perfectly healthy 5-year-old girl, and in the blink of an eye she was gone. The day that she passed away she had woken up with a fever and was feeling a little under the weather, but by the end of the day she was feeling much better and was running around with me. It was as though she had never been sick and was back to normal. She was not back to normal though. As I slept that night, my sister was being rushed to the hospital with a fever of 106 degrees. The doctors said that there was nothing they could do and that the flu had caused swelling to her brain. By the following night I had lost my sister and my family's life would be changed forever.

www.michigan.gov/immunize

Concept adapted with permission from Texas Children's Hospital.

Why get a flu vaccine?

Ask the McCormick family of Michigan.

Even healthy, young adults can get the flu, and it can be very serious. This year and every year, get vaccinated against the flu. It could save a life.

Ashley's story

Ashley McCormick was a 23-year-old nanny. She came home from work on December 20, 2013, with a runny nose, sore throat, and headache. The next day she had a high fever and went to urgent care. Her positive flu result came too late for Ashley to be treated. She started to feel better, but on Christmas her fever was 103.8 degrees. The next day she went to the emergency room with pneumonia. Ashley had H1N1 flu and quickly became very sick. On December 27, Ashley died from the flu. Ashley's life may have been saved if she had been vaccinated.

www.michigan.gov/immunize

Concept adapted with permission from Texas Children's Hospital.

Tell A Personal Story

- Alana's Foundation
  - www.alanasfoundation.org
- The Ashley McCormick Flu Foundation
  - http://www.theashleymccormickflufoundation.com/
- Families Fighting Flu
  - www.familiesfightingflu.org
  - Videos with personal stories, powerful messages
- CDC's Influenza PSAs
  - www.cdc.gov/flu/freeresources/media-psa.htm
  - Why Flu Vaccination Matters: Personal Stories from Families Affected by Flu

College/University Flu Vaccination Challenge

- Originated due to low coverage levels in MI 18-24 year-olds
- Goal: increase flu vaccination rates of college-aged young adults
- Competition between schools – who can get the highest coverage?
- School health centers required to enter doses in MCIR

2015-16 Enrolled Schools

- Albion College
- Alma College
- Aquinas College
- Calvin College
- EMU
- Grand Valley State
- Hope College
- Kalamazoo College
- MSU
- Oakland University
- Rochester College
- Southwestern MI College
- University of Michigan
- Wayne State University

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How to Win

- Students will self-report flu vaccination via quick online survey
- Schools will market campaign, promote survey link to their students
- Campaign will go August through March, winners will be announced in April 2016

For more information, go to www.michigan.gov/flu -> College/University Flu Vaccination Challenge

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Communication Considerations for 2015-16

- 2014-15 season reminded us that:
  - Flu is serious, can cause severe illness and death; highest flu hospitalization rate in aged 65 years & older
  - Timing and duration of flu seasons vary
- 2014-15 flu vaccine effectiveness was not optimal
- Multiple vaccine presentations and formulations
- Most of general public trust providers to recommend which vaccine is right for them

Flu Vaccination Resources

- Know your resources
- Stay current and knowledgeable about seasonal influenza
- Resources are available at:
  MDHHS website:
  www.michigan.gov/flu
  CDC website:
  www.cdc.gov/flu

Receive Weekly MDHHS Flu Updates

MI Flu Focus

Influenza Surveillance Updates
Bureaus of Epidemiology and Laboratories

MDHHS Michigan Department of Health & Human Services

Co-Editors: Stefanie DeVita, RN, MPH devitas1@michigan.gov
Bethany Reimink, MPH reiminkb@michigan.gov

August 19, 2015
Vol. 12; No. 27

Updates of Interest:

- *2015-16 Flu vaccine recs published in MMWR Aug. 7; Michigan versions of VIS also posted.*
- *MDHHS & MSU's 4th annual Flu Webinar is August 26, 12-1 PM! Registration is **required**; register here.*

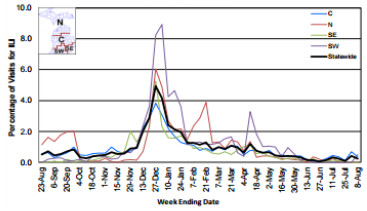
Influenza Surveillance Report for the Week Ending August 8, 2015

Michigan Disease Surveillance System
MDSS influenza data indicated that compared to levels from the previous week, aggregate and individual reports decreased slightly. Aggregate reports are slightly higher while individual reports are similar to levels seen during the same time period last year.

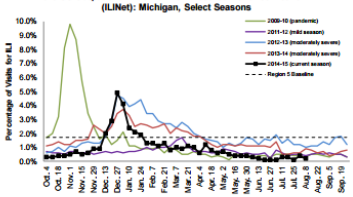
Emergency Department Surveillance
Compared to levels from the week prior, emergency department visits from constitutional complaints decreased slightly while respiratory complaints remained the same. Levels of constitutional complaints and respiratory complaints are lower than levels seen during the same time period last year.

- 4 constitutional alerts (1SW, 3C)
- 2 respiratory alerts (1SW, 1C)

Percentage of Visits for Influenza-like Illness (ILI) Reported by Sentinel Providers, Statewide and Regions 2014-15 Flu Season



Percentage of Visits for Influenza-like Illness (ILI) Reported by the US Outpatient Influenza-like Illness Surveillance Network (ILINet): Michigan, Select Seasons



Sentinel Provider Surveillance
The proportion of visits due to influenza-like illness (ILI) decreased to 0.2% overall; this is below the regional baseline (1.7%). A total of 18 patient visits due to ILI were reported out of 7,317 office visits. Please note: These rates may change as additional reports are received.

Number of Reports by Region (18 total):

- C (6)
- N (none)
- SE (10)
- SW (2)

Become a Sentinel Provider!

As part of pandemic influenza surveillance, CDC and MDHHS highly encourage year-round participation from all sentinel providers. New practices are encouraged to join the sentinel surveillance program today! Contact Stefanie DeVita (devitas1@michigan.gov) for more information.

Table of Contents:

FluBytes

August 12, 2015

2015-16 FLU VACCINE RECOMMENDATIONS
CDC's Advisory Committee on Immunization Practices (ACIP) published the 2015-16 flu vaccine recommendations in *MMWR* on August 7. The report includes the recommendations, antigenic composition for 2015-16, and available flu vaccine products. MDHHS will be updating our flu education materials and will post them here as they are completed.

The 2015-16 Flu Vaccine Information Statements (VIS) have also been posted. Make sure to use the Michigan versions as they contain language on the Michigan Care Improvement Registry (MCIR).

VIC NETWORK WEBINAR ON AUGUST 19
The Virtual Immunization Communication (VIC) Network is hosting a webinar called 'What's New With the Flu? CDC's Recommendations and Communication Plans for 2015-16' on August 19 from 2-3 PM. There will be 2 CDC speakers. If you'd like more information or to register for this webinar, please go here.

NAT'L IMMUNIZATION AWARENESS MONTH
It's National Immunization Awareness Month! Use the communications toolkit to promote the importance of immunizations week by week. Here's what's coming up for NIAM 2015:
Aug. 9-15: Pregnant Women
Aug. 16-22: Adults
Aug. 23-29: Infants and Children

AVIAN INFLUENZA NEWS IN NORTH AMERICA

- Quarantines over on Wisconsin bird flu farms
- Iowa turkey farm reopens after avian influenza
- Congress asks USDA for continued avian influenza assistance
- APHIS boosts workers in wake of avian influenza
- Any reports of sick or dead birds should be forwarded immediately to the proper agency:
  - For domestic poultry, contact MDARD:
    - M-F 8AM-5PM, 1-800-292-3939
    - After hours/weekends, 517-373-0440
  - For wildlife (die-off of waterfowl, gulls, or shorebirds), contact DNR:
    - M-F 8AM-5PM, 517-336-5030
    - After hours/weekends, 1-800-292-7800

Archived editions of FluBytes are available here and MI FluFocus archives are here.

AVIAN INFLUENZA A(H5N1), A(H7N9) NEWS

- Ghana, Ivory Coast report new H5N1 outbreaks
- Two Nigerian H5N1 outbreaks bring total to 170

INFLUENZA-RELATED JOURNAL ARTICLES

- *Vaccine*: Incidence of medically attended influenza infection and cases averted by vaccination, 2011-12 and 2012-13 flu seasons
  - Incidence varied greatly by year and by geographic region within the same year
  - Cumulative incidence ranged 0.8%-2.8% during 2011-12, 2.6%-6.5% during 2012-13
  - Incidence by age: 10.9% among children 6 months-8 years in 2012-13
  - Cases averted by vaccination ranged 4-41 per 1000 vaccinees, depending on study site and year
- Impact of vaccine concerns on racial/ethnic disparities in influenza vaccine uptake among healthcare workers
  - Black HCWs had lower flu vaccine uptake than whites, largely due to high concerns about flu vaccines
  - 82% supported mandatory flu vaccination for HCWs
- *Journal of Infectious Diseases*: Evolutionary dynamics of influenza A viruses in US exhibition swine
  - Exhibition swine are actively involved in evolution of flu A viruses

OTHER INFLUENZA-RELATED NEWS

- CDC: Toolkit for long-term care employers
  - This toolkit was developed to help long-term care employers/administrators promote flu vaccination among their workforce
  - Make sure to check out the resources for increasing flu vaccination among long-term care HCP
- Rite Aid pharmacies nationwide now offering flu shots (August 12)
- CDC: What you should know for the 2015-16 flu season (August 10)
- CDC flu vaccination pledge for the 2015-2016 season

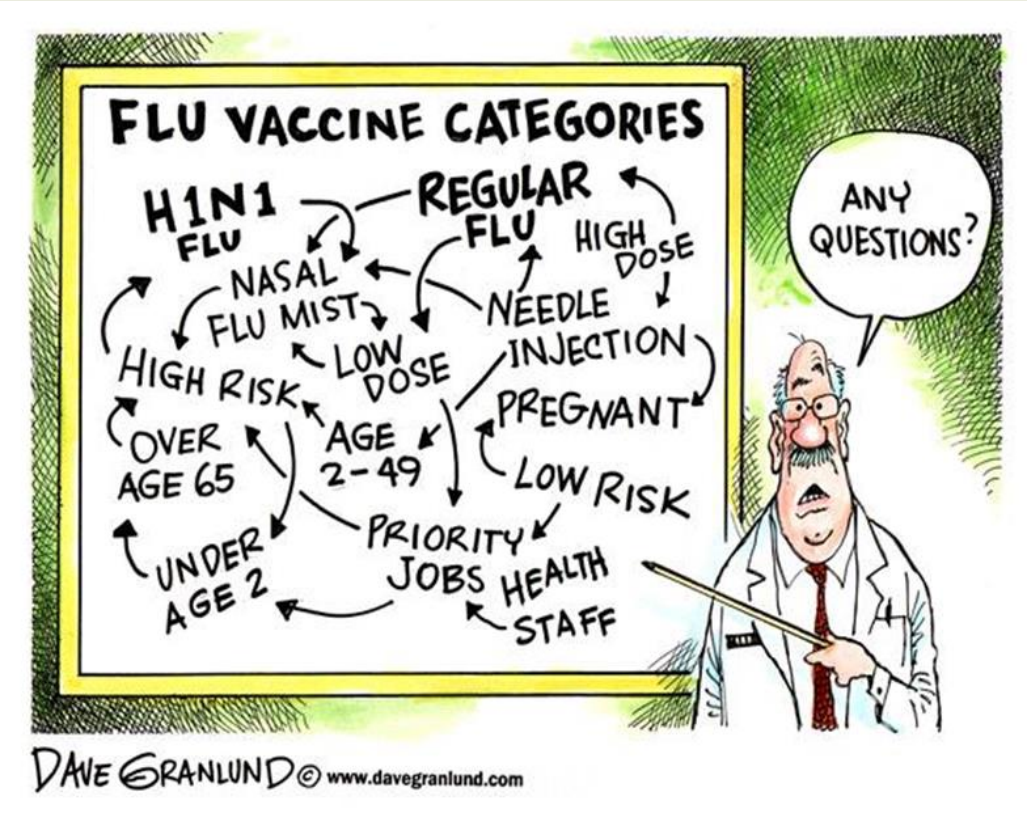
FLU WEBSITES
www.michigan.gov/flu
www.cdc.gov/flu
www.flu.gov
http://vaccine.healthmap.org/

MDHHS Michigan Department of Health & Human Services

For questions or to be added to the distribution list, please contact Stefanie DeVita at devitas1@michigan.gov.

Q&A Session

- Please type your questions in the chat box



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Michigan Department of Health & Human Services

Thank you for your attendance!

- A survey link will be sent out to all registrants
- Physicians/nurses, to obtain *1 AMA PRA Category 1 Credit* for participating today:
  - Complete the post-test within MSU's evaluation
  - Needs to be completed by September 9, 2015
- Pharmacists, to obtain *1 PCE Contact Hour* for participating today:
  - Complete MSU's evaluation
  - Will link to MPA's post-test and evaluation
  - Needs to be completed by September 9, 2015
- If you do not receive the email with the survey link, contact Connie DeMars at demars@anr.msu.edu

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